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BY THOMAS EMMERSON, AT $1 PER ANNUM IN ADVANCE—OR $1 50 AT THE END OF THE YEAR

On Making Meadow.

In the upper part of East Tennessee, the following course will be found the most advantageous mode of making a new meadow, where the land is not very foul. Let the land be cleared by grubbing it well, and taking off all the timber by the first of August, then rake up the leaves, chips, &c. and burn them, after which Harrow the ground repeatedly, until the weeds and grass are completely destroyed, and the soil on the surface well pulverised, then sow turnip seed and harrow it again, after which sow Timothy seed thickly, and brush the land over with a light brush. The bottom will thus be smooth, the turnips and timothy will both do better than if the land had been ploughed, and the latter particularly will be far better cut, and endure much longer. By breaking up the land, the roots, will be broken, and much labour rendered necessary to remove them, so as to prevent obstructions to the scythe, while the grass, instead of being benefitted, will be greatly injured by the ploughing. Take care to sow the grass seed thick. sowing one half the seed in lands in one direction, and the other half in lands crossing the first, so that the seed may be as evenly distributed as possible. By this means, the first crop of hay will be found to be as good and as clean, as any succeeding one. It is a very common, but a most injudicious practice, to break up the land with the plough, by which the grass is not only injured, but in spite of all the care which can be taken, snags, or pieces of the roots, will be left standing up, well calculated to break scythes and to obstruct the mowing. A false economy also, is too often resorted to, of sowing too little seed, depending on the ground to seed itself from the first crop, the consequence is, that the weeds spring up in such abundance, as to render the first crop of grass of little or no value and the land is moreover rendered so foul, that in a short time, it will be necessary to plough up the meadow whereas, by a liberal application of seed in the first instance, the first crop of hay would have been clean and valuable, and much of the filth smothered by the grass. This mode of seeding highland meadow here recommended, has been repeatedly tried by the Editor with uniform success. Whether it would answer as well on the more sandy soil of the western part of East Tennessee, unless in favorable seasons, is doubtful; but if the Turnips be dispensed with, and the Timothy seed sown late in the fall, or in the the winter, he has no doubt it would prove equally beneficial in those soils.—If old land is to be converted into meadow, after ploughing and well harrowing the ground, the seed should be sown liberally as before stated, and the roller run over the land once or twice immediately after sowing, and again in the succeeding winter or spring, while the ground is tolerably dry.—When the meadow begins to fail, let the seed become perfectly ripe before mowing, immediately after, harrow well with a large harrow, and if practicable, apply a dressing of manure, the meadow will thus be renovated, and again yield fine crops of clean hay. It must not however be forgotten, that Timothy is an exhausting crop, and that therefore, to render a meadow of this grass permanently productive, it must be aided by occasional applications of manure. If the land be wet, a mixture of the seed of the Herds grass or Red Top will be very advantageous. If the land be very soft, or even miry, the Herds grass alone should be sown, and it will form a most valuable and durable meadow. We must caution our readers however, if they wish to preserve good meadows, to avoid excessive grazing, on them, and particularly, not to permit stock to run on them while the ground is soft; this destructive practice, so common amongst us, is more injurious to our meadows than all other causes combined, it is one of the many instances of false economy, to be met with in our agricultural practices, by which pounds are sacrificed to save pence. A meadow should by, no means be pastured in the winter or spring.

From the Cultivator.

Gama Grass has been a topic of commendation in our journals for some years, without our having participated in its praise; not because we did not think it an acquisition to farmers, but because, we apprehended it would not do for *northern* farmers—that it would not withstand our winters. The seed is enveloped in a thick capsule, which it is difficult to separate from it, and which is ordinarily planted with it: it has been found extremely difficult to germinate, for which a high temperature, like that of June, is requisite, and it is yet in time for those who have the seed, to sow it. Through the politeness of our esteemed friend, Dr. Beekman, we have received a package of the seed, some of which we have now growing in a hot-bed, and a small parcel yet remains in our office for distribution. Our readers shall be advised of the result of our experiment with it. In the mean time, we subjoin Dr. Beekman's directions for managing the seed and plants.

"GAMMA GRASS SEED.

"Sow in drills, 18 inches apart, about a half pint tumbler full to forty feet in length: cover about two inches; in a month it will come up like oats; when about six inches high and two suckers appear, one on each side, then transplant, about three feet by two feet. The second year, in Georgia, the first cutting may be made in May, and once every month to the first of October, say six cuttings; each cutting the blades will be three feet or upwards; each forms a large bunch and may be annually divided into from ten to forty plants. The cuttings will probably be reduced to four, northerly, in place of six. Good land is of course required for such vegetation.

Copy of the directions.

From your friend,
J. P. BEEKMAN."

THE ITALIAN RYE GRASS is found on trial, to do well in Ireland and Scotland. It has afforded two good cuttings the season it was sown, the growth having been 4 feet 8 inches, and 4 feet 6 inches—and cut 31st July and last of September. The herbage was healthy and green till December.

MANURE.

J. H. J., in the Maine Farmer, corroborates our repeated remarks and experience, *that unfermented manures are best for Indian corn.* Having manured a field, part with fermented, and part with unfermented manure, the corn planted upon the former had a surprising advantage, in the outset, over the latter. "The difference was so great, that you might tell where the fermented manure was put as far as you could see the field, as the stalks grew about twice as large. But, lo! *at harvest*, the ears were hardly worth gathering, whilst that part on which the green manure was put, was a fair crop of corn." We would ask the advocates for fermented manures, if this *fair crop of corn*, grown upon unfermented manure, did not derive all its superiority from the food which that manure gave off in the process of fermentation; and if so, whether the fermented manure had not lost much of its fertilizing properties by fermenting, *before it was applied to the crop?* The gasses which unavoidably escape from fermenting manure, and which are lost to the farm if the manure ferments above ground, are as much the food of plants, as the black carbonaceous matter which remains after the dung has rotted; and the benign mechanical effects upon the soil, of the former, are thrice as beneficial as those of the latter.—[*Cultivator.*

As the soil, however rich it may be, cannot be productive without culture, so the mind, without cultivation, can never produce good fruit.

Seneca.

DEMAND FOR COCOONS.

Judging from appearances, the demand for cocoons and reeled silk, the coming season, will exceed the supply in a thousand fold. The silk manufactories in Dedham, Mansfield and this city, are depending principally upon the new crop for the raw material. The last year's crop is already exhausted, and we understand that scarcely a bale of foreign silk can be found in the commercial cities. Those, therefore, who raise a crop this season may depend on its being sought for by the manufacturers and at a very liberal price. We should not be surprised if they commanded four dollars a bushel. Such persons, therefore, as have foliage, will do well to make cocoons, if they are not prepared for reeling.

Silk Culturist

WHITE MULBERRY.

In reply to the enquiries of Henry Brewer, of Enfield, New-York, we publish the following *Directions for sowing the seeds and rearing the plants, of the White Mulberry Tree, prepared in pursuance of a resolution of the New-York Agricultural Society.*—[*Ed. Cultivator.*

1. Prepare a good piece of garden soil, by digging and pulverizing it; lay it out into beds of three or four feet broad, and rake it off smooth. Do this early in May. Sow from 12th of May to first June.

2. With a hoe, stick, or other instrument, proceed to make shallow drills across the bed thus prepared, from twelve to eighteen inches apart, and scatter the seed in the drills as thick as you would onion or parsnip seed; then cover half an inch with fine mould, and press it moderately down with a hoe; or, when the first drill is sown and covered, place upon it a narrow strip of board, and stand upon this board to sow the second drill, upon which, when sown, place the board in like manner, and sow the third drill, and proceed thus until the whole is completed. The pressure of the earth upon the seeds is to bring it into close contact with them, that they may be kept moist, and germinate readily. If the weather be dry, or the soil very light, an occasional watering at evening will be beneficial.

3. The only further care required, the first season, will be to keep the ground free from weeds, and the soil moderately loose.

4. Strong plants of one year's growth may be transplanted in April into nursery rows; or, the whole may be left to grow a second summer in the seed bed; the ground, as before, being kept free from weeds, and occasionally stirred.

5. After two summer's growth, all the strong and healthy plants should be placed in nursery rows, which may be done thus: the ground being prepared, as for a crop, draw a line and proceed to open a trench, of sufficient breadth and depth to admit the roots, freely, leaving the side next

the line straight and perpendicular. Having assorted the plants, and cut off the bruised, and shortened the tap roots, a man proceeds to place them in the trench, in their proper position, the heel of the plant towards the line, and at the distance of a foot apart; while another man with a spade, or the planter with a gardener's trowel, throws in earth to hold them in their place. The trench is then to be filled, the plants set upright, and the earth tread about them. The other rows are planted in like manner, three feet apart—the ground to be kept clean during the season.

6. After standing two years in nursery, the plants will have acquired a sufficient size to plant out in the ground where they are to stand; and if intended to be grown in hedge, or as bushes, they may be taken earlier, even at two years old, from the seed bed. For hedges, plant the same as for nursery rows, at eighteen inches, the ground having been previously prepared by an ameliorating crop, as potatoes. The same precautions are necessary with Mulberry as other fruit trees, intended as standards, as to distance and planting. A broad and deep hole, partially filled with good surface mould, will always repay for extra labor. When intended to be cultivated as bushes, they may be planted thick, and left untrimmed, so as to occupy the entire ground. The Mulberry is generally grown in the latter way in India and some parts of Italy. It facilitates the gathering of the leaves, and affords an earlier product.

The Mulberry grows well on almost any soil, and particularly in one which is stony. Upon poor, dry soils, it affords the best material for silk. An ounce of seed will give some thousand plants, and require a bed four feet broad, and forty to fifty feet long. J. BUEL, *Cor. Sec'ry.*

Albany, March 15th 1832.

Silk Culture.

There are abundant indications that the Culture of Silk, will soon be prosecuted in the various sections of the Union, at least to an extent amply sufficient to test the expediency of adopting it as a general branch of industry.—The following notice of the extensive circulation of the SILK CULTURIST, shows the wide interest felt on the subject. From every thing we have been able to collect from this, and two other valuable publications, the SILK WORM and the SILK MANUAL, we are led confidently to believe that the time is not far distant, when instead of paying to foreign nations ten millions of dollars annually for silk, the article will form an important item of our exports.

"The first number of the Culturist is quite and the second and third nearly exhausted. Those therefore, who do not receive them will be supplied as soon they can be reprinted. The success of the Culturist is unprecedented. The first edition of two thousand having been exhausted since the 15th of April—and subscribers and orders for seed and trees continue to come in unabated. It is a sure indication that the culture of silk in this country will meet with the attention its importance demands.

Since the commencement of the Culturist, a monthly paper devoted to the subject has been started in Albany, called the "Silk Worm," and another at Boston, called the "Silk Manual." We are happy to see these indications of growing attention to this branch of domestic industry."

NEW-YORK AMERICAN SILK SOCIETY.

A society, having for its object the introduction and extension throughout the country of the knowledge and practice of cultivating and raising mulberry trees, of feeding and managing silk worms, and reeling silk from cocoons in the most approved method.

The importance of this knowledge will appear from the fact that the nett profit of land devoted to the culture of silk is double, if not tripple, to that derived from any other crop which can be put upon it, it is also a fact, that every moderate farmer can raise several hundred dollars worth of silk, without interfering with his ordinary agricultural operations. But in order to avail himself of this facility to obtain competency and wealth, which our soil and climate have given him, he must possess himself of information on the subject—for without it his attempts will be fruitless. It is therefore, the object of the Committee to diffuse this information as extensively as possible.

This Society was formed in this city on the 15th of May, 1835.—*Long Island Star.*

POTATOES.

Farmers who have old straw to spare, will find it greatly to their advantage to spread a coating of it over their potatoe ground after their potatoes are hoed, as it will often contribute materially to the growth of the plant by keeping the soil moist. It will likewise be useful in shading the newly formed tubers from the rays of the sun, especially in dry sandy soils where potatoes are apt to acquire an unpleasant bitter taste from the action of the heat upon them. Most farmers have some old half rotted straw about their barns, and a few hours in spreading it in this way would be well repaid.

The same objections apply to hilling potatoes as to corn, and the errors of practice are equal in case of both crops. If the object were to turn off the rain *from* the plants, it would often be admirably attained; but this is not the case; and if they are hilled at all the hills should be broad and flat.—*Gen. Farmer.*

From the Cultivator

On the beneficial effects of knowledge on moral principle and conduct.

Knowledge is valuable chiefly in proportion as it is practical and useful. It dispels the darkness which naturally broods over the human understanding, and dissipates a thousand superstitious notions and idle terrors by which it has been frrquently held in cruel bondage. It invigorates and expands the intellectual faculties, and directs them to their proper objects. It elevates the mind in the scale of rational existence, by enlarging its views and refining its pleasures. It gratifies the desire of the soul for perpetual activity, and renders its activities subservient to the embellishment of life and the improvement of society. It unveils the beauties and sublimities of nature, with which the heavens and the earth are adorned, and sets before us the "Book of God," in which we may trace the lineaments of his character and the ways of his providence. It aggrandizes our ideas of the omnipotence of Deity, and unfolds to us the riches of his beneficence, and the depths of his wisdom and intelligence. And, in the exercise of our powers on such objects, we experience a thousand delightful emotions and enjoyments to which the unenlightened multitude are entire strangers. All such activities and enjoyments may be reckoned among the practical advantages of knowledge.

But there is no application of knowledge more interesting and important than its practical bearings on moral principle and action. If it were not calculated to produce a beneficial effect on the state of morals and the intercourses of general society, the utility of its general diffusion might, with some show of reason, be called in question, But there cannot be the slightest doubt, that increase of knowledge would be productive of an increase of moral order, and an improvement in moral conduct.

For truth, *in thougt and sentiment*, leads to truth *in action*. The man who is in the habit of investigating truth, and who rejoices in it when ascertained, cannot be indifferent to its application to conduct. There must be truth in his actions; they must be the expression, the proof, and the effect of his sentiments and affections, in order that he may approve of them, and be satisfied that they are *virtuous*, or accordant with the relations which subsist among moral agents. There must likewise be a truth or harmony between his actions, so that none of them be incoherent with the rest. They must all be performed on the same principles, with the same designs, and by the same rule. To a man who perceives truth and loves it, every incongruity and every want of consistency between sentiment and action, produces a disagreeable and painful sensation; and, consequently, he who clearly perceives the rule of right, and acts in direct opposition to it, does violence to his nature, and must be subjected, to feelings and remorses of conscience far more painful than those of the man whose mind is shrouded in ignorance. It is true, indeed, that proficiency in knowledge and in the practice of true morality, do not always proceed with equal pace. But it is nevertheless true, that every action that is truly virtuous is founded on knowledge, and it is the result of scrutiny and choice directed by truth; otherwise, what is termed virtue, would be only the effect of necessity, of constraint, or of mechanical habits. We need not, therefore, fear that the dominion of virtue* will be contracted, or her influence diminished, by an enlargement of the kingdom of light and knowledge. They are inseparably connected, their empire is one and the same, and the true votaries of the one will also be the true votaries of the other. And, therefore, every one that sincerely loves mankind, and desires their moral improvement, will diffuse light around him as extensively as he can, without the least fear of its ultimate consequences; since he knows for certain, that in all cases whatever wisdom excels folly, and light is better than darkness. The following observations will perhaps tend more particularly to confirm and elucidate these positions:

1. *Ignorance is one principal cause* of the want of virtue, and *of the immoralities which abound in the world.* Were we to take a survey of the moral state of the world, as delineated in the history of nations, or as depicted by modern voyagers and travellers, we should find abundant illustration of the truth of this remark. We should find, in almost every instance, that ignorance of the character of the true God, and false conceptions of the nature of the worship and service he requires, have led not only to the most obscene practices and immoral abominations, but to the perpetration of the most horrid cruelties. We have only to turn our eyes to Hindostan, to Tartary, Dahomy, Benin, Ashantee, and other petty states in Africa; to New-Zealand, the Marquessas, the Sandwich Islands, and to the Society Isles in the Southern Pacific, prior to their late moral transformation, in order to be convinced of this melancholy truth. The destruction of new-born infants,—the burning of living women upon the dead bodies of their husbands,—the drowning of aged parents,

*By *virtue*, in this place, and wherever the term occurs, I understand, conduct regulated by the law of God, including both the external action and the *principle* whence it flows; in other words, Christian morality, or that holiness which the Scriptures enjoin.

—the offering of human victims in sacrifice,—the torturing to death of prisoners taken in battle,—the murder of infants, and the obscene abominations of the societies of *Arreoy* in *Otaheite* and other Islands, and the dreadful effects of ambition, treachery, and revenge which so frequently accompany such practices, are only a few specimens of the consequences of ignorance combined with human depravity. It is likewise to ignorance chiefly that the vices of the ancient Pagan world are to be attributed. To this cause the apostle of the gentiles ascribes the immoralities of the heathen nations. "The gentiles," says Paul, "having the understanding darkened through the ignorance that is in them, have given themselves over unto lasciviousness, to work all manner of uncleanness with greediness." Ephesians iv. 18, 19. And, in another part of his writings, he declares, "Because they did not like to retain God in their knowledge, they were given up to a reprobate mind," or a mind void of judgment; and the consequence was, "they were filled with all unrighteousness, fornication, wickedness, covetousness, maliciousness, envy, murder, deceit, and malignity;" they were "backbiters, haters of God, proud, boasters, inventors of evil things, disobedient to parents, without understanding, without natural affection, implacable, and unmerciful." Romans 1. 28, 31. And if we turn our eyes to the state of society around us, we shall find that the same cause has produced the same effects. Among what class do we find sobriety, temperance, rectitude of conduct, honesty, active beneficence, and abstinence from the grosser vices most frequently to prevail? Is it among ignorant and grovelling minds? Is it not among the wise and intelligent, those who have been properly instructed in their duty, and in the principles of moral action? And who are those that are found most frequently engaged in fighting, brawling, and debauchery, in the commission of theft and other petty crimes, and in rioting in low houses of dissipation? Are they not, for the most part the rude, the ignorant, and untutored,—those whose instruction has been neglected by their parents or guardians, or whose wayward tempers have led them to turn a deaf ear to the reproofs of wisdom? From all the investigations which of late have been made into the state of immorality and crime, it is found, that gross ignorance, and its necessary concomitant, grovellling affections, are the general characteristics of those who are engaged in criminal pursuits, and most deeply sunk in vicious indulgence. Now, if it be a fact that ignorance is one principal source of immorality and crime, it appears a natural and necessary inference, that the general diffusion of knowledge would tend to counteract its influence and operations. For when we remove the *cause* of any evil, we, of course, prevent the *effects;* and not only so, but at the same time bring into operation all those virtues which knowledge has a tendency to produce.

2. Knowledge is requisite for ascertaining the true principles of moral action, and the duties we ought to perform. Numerous are the treatises which have been written, and various the opinions which have been entertained, both in ancient and modern times, respecting the foundation of virtue and the rules of human conduct. And were we to investigate the different theories which have been formed on this subject, to weigh the arguments which have been brought forward in support of each hypothesis, and to balance the various conflicting opinions which different philosophers have maintained, a considerable portion of human life would be wasted before we arrived at any satisfactory conclusions. But if we take the system of revelation for our guide in the science of morals, we shall be enabled to arrive, by a short process, at the most important and satisfactory results. We shall find, that, after all the theories which have been proposed, and the systems which have been reared by ethical philosophers, the Supreme Lawgiver has comprised the essence of true morality under two commands, or fundamental principles, "Thou shalt love the Lord thy God with all thy heart," and "Thou shalt love thy neighbor as thyself." On these two commandments rests the whole duty of man.

Now although the leading ideas contained in these commands are simple and obvious to every one who considers them attentively, yet it requires certain habits of reflection and a considerable portion of knowledge to be enabled to trace these laws or principles to all their legitimate consequences, and to follow them in all their ramifications, and their bearings on human conduct, and on the actions of all moral intelligences. For it can easily be shown, that these laws are so comprehensive as to reach every possible moral action, to prevent every moral evil, and to secure the happiness of every moral agent,—that all the duties inculcated in the Bible, which we owe to God, to our fellow-creatures, and to ourselves, are comprehended in them, and are only so many ramifications of these general and fundamental principles,—that they are equally adapted to men on earth and to angels in heaven,—that their control extends to the inhabitants of all worlds,—that they form the basis of the order and happiness of the whole intelligent system,—and that their authority and influence will extend, not only through all the revolutions of time, but through all the ages of eternity. Here, then, we have a subject calculated to exercise the highest powers of intelligence; and the more

we investigate it the more shall we admire the comprehensive nature of that "law which is exceeding broad," and the more shall we be disposed to comply with its divine requisitions. But unless we be, in some measure, acquainted with the first principles of moral action, and their numerous bearings upon life and conduct, we cannot expect to make rapid advances in the path of virtue, or to reach the sublimer heights of moral improvement.

(To be Continued in next Number.

HOEING CORN.

The objects of hoeing and working the soil, about corn, are, *first*, to destroy all weeds; and *secondly*, to loosen the soil at the surface, that it may the more readily absorb dews and rain which fall upon it, and prevent the evaporation of moisture, which takes place much sooner where the soil is hard, than where it is kept loose and mellow. The practice so prevalent, of deep cultivation by the plough between rows of corn, is not to be recommended. If the ground has been properly prepared before planting when not too wet, it will not need this additional loosening. After the corn has arrived at the usual size for hoeing, the soil should only be disturbed at the surface. For as the plants increase in size, they send out long fibrous thread-like roots in all directions, which branch every way and run all over the ground; and it is through these that they receive a large portion of their nourishment. To break or injure these would, therefore, materially retard the growth of the plants by cutting off their accustomed supply of food. And yet surprising as it may seem, a notion is very prevalent, that it is serviceable to break the roots of corn. But what should we think of such reasoning as this were it appled to animals? What should we think if it were declared to be serviceable to cattle, to deprive them of their supply of food? Or as a writer somewhere asks, what would be thought of the reason of a man who should declare it as his opinion, and practically enforce it, that the best way to fatten a bullock, is to wound his tongue, break his teeth, and batter his jaws, whenever he reached forward his head for food? Why then treat plants, which, as much as animals, require their proper nourishment, in the same way?

Hilling corn, we would also dis-approve, although it is very commonly practised. Not unfrequently in performing this operation, all the loose and mellow earth is scraped away from between the rows and heaped up round the plants, forming a sort of roof about them, throwing off the rain, which runs down into the hard soil thus laid bare at the bottom of the furrows, which the first dry weather bakes to the last degree of hardness, so that the roots can receive no moisture here, and little within these artificial pyramids. A reason is assigned in favor hilling,—that it makes the corn stand firmer and more erect, and is less liable to be broken down by the wind. This may be the case when the plants are small and do not need any such help; but when they attain a height of several feet, and are loaded with leaves and ears, it must be evident that a little loose earth piled about the roots is totally insufficient for such a purpose. It is the strong bracing roots which radiate from the stalk which are to support it there; and to bury these roots deep under the surface while they are growing, and thus shut out from them both heat and air, and render them weak and tender, would only help to bring about the very thing we wish to prevent.

It is important to farmers that this subject be well understood; for a little knowledge may save many weary steps, and be the means of an abundant crop in the bargain; but if any farmers doubt the accuracy of our reasoning, we would request them to test it by experiment; by ploughing and hilling high one part of their corn, and using the cultivator and applying the same amount of labor in mellowing the flat surface of the other, and then *measure* the results.

[Western Farmer.

ON A ROTATION OF CROPS.

We have been apprehensive that the importance of a proper rotation of crops was too little understood or attended to by many of our farmers. The rich calcareous lands of the Genessee country, are well calculated indeed, to make them forgetful of the subject; and so long as good crops of wheat can be produced in annual succession on the same field, there is a danger that they will be satisfied without inquiring if their lands might not be made to yield better. We believe that on this point there is much room for improvement.

To sow wheat on wheat stubble has been considered a slovenly practice. It is decidedly so, in the way that it is frequently managed, when all the chess and cockle of the former crop, are allowed to occupy the ground; but this cause of reproach may be avoided by extirpating those weeds; and then if the field be well seeded with clover in the spring, so that a good turf may be ploughed under after harvest, and kept under through seeding time, we are persuaded the objection to this mode of farming would become less valid.

It is not the method, however, which we would fully recommend. Even in soils that are kept in the best order, there is much testimony to prove that the whole strength of the land is not given out, where the same crop is annually repeated. Judge Buel says, "With-

[illegible]section, I adopted this too common out due re[illegible]v onion quarter, beet quar- practice, and had [illegible]hich have been plan- ter, melon quarter, etc., [illegible] exclusively for ted with those vegetables almos[illegible] I manu- eight or ten years. Notwithstandin[illegible] ered highly, I was astonished, that my crops [illegible] ery year grew worse, till from this very inferior quality, I was led to reflect upon the cause; and the consequence was that I became convinced, that the principle of alternation, which I knew was beneficial in farm operation, should be applied also to the garden. I planted my onions, beets, carrots, ect., on new ground, although the [onions] I had understood, should always be continued on the same plat. The result of the change is, that these vegetables have nearly quadrupled in product."

None of these vegetables, however, will come under the denomination of exhausting crops, (including wheat, oats and flax); and therefore we shall be prepared to assent to the following remarks, selected from the British Farmer's Cyclopedia: *West. Farmer.*

"The proper cropping of arable land is a matter of the utmost importance to the interests of the farmer; as upon it, in a great measure, must depend the profits and advantages which he is to derive from his labor and industry. It is thought by Mr. Billingsley to be the most prominent feature in good farming; and that by which the product of the soil may be increased in a three fold proportion; and by Mr. Middleton as one of the most important subjects that can occupy the attention, or exercise the ingenuity and skill of the agriculturalist.

"That it demands much regard of the cultivator, is fully evinced by the great advantages that have been gained by it within the last twenty or thirty years,* since its principles have become more perfectly understood and more extensively applied. It has indeed, been well remarked that wherever very good or very bad husbandry is found on arable land, it results more from the right or wrong arrangement of crops than from any other circumstance; and that no district is well cultivated under bad rotation, while it is exceeding rare to see any badly managed under good ones."

It is not our intention at this time to enquire whether the deterioration proceeds from excrementitious matter ejected by the plants into the soil? or from a diminution of their food? Neither shall we attempt to determine whether the advantages of rotation, arise from each different crop requiring a different specific food? or whether each only draws its nourishment from a different depth? It will be sufficient for our purpose to exhibit some general principles which have been proposed as guides in this matter to the agricultural enquirer; and which we copy from an excellent essay on the subject, by J. H. Couper, of Georgia:

"*First Principle.* In the selection of crops, to consult the climate, soil, situation, the demand resulting from markets, and the other circumstances which constitute the peculiarities of [illegible] local position.

"*Second Principle.* Plants possessing a system of broad leaves are to be alternated with those having narrow leaves.

"*Third Principle.* Fibrous rooted are to be alternated with tap and tuberous rooted vegetables.

"*Fourth Principle.* The recurrence of the same plant on the same field, or of plants of the same character—is to be removed as far as possible. And their return should be so much the longer delayed, as they have the longer occupied the soil.

"*Fifth Principle.* Plants which during their growth require the operations of stirring the earth and weeding, to be alternated with those which do not.

"*Sixth Principle.* The application of manure to be made to the most valuable and exhausting crops, as far as may be consistent with the preceding principle.

"*Seventh Principle.* The succession of crops should be so arranged that the work which they require shall follow in easy, regular and economical order.

"*Eighth Principle.* Land should be left bare as short a time as possible; and should be kept covered with plants valuable in themselves, or which contribute to the increased value of those which are to follow."

*This work was published in the year 1807

COOKING BY GAS.

Yesterday our citizens at the Arcade were treated by Mr. Caldwell with a leg of mutton cooked on the spot by means of gas. The following is an account of the method and apparatus used:

A burner of about fifteen inches diameter is connected with a spit which rests in a tin dripping pan, the mutton being put on the spit, shank downard, and the gas burner lighted which being circular, the heat of course applied itself equally on the meat; a tin cover of about the size of a Dutch oven was then put over it, & the meat can be cooked at the rate of about 1 lb. in ten minutes. The advantage of this mode of cooking is, 1st, the cleanliness and safety; 2d, the saving of labor and economy, 3d, the superior flavor of the meat, the juices being preserved in it until it is entirely cooked.

N. Orleans American.

Adopt a system of due subordination, while the youthful mind is flexible.—*Virgil.*

GRASSES.

We commence to-day the puplication of the first number of a series of Essays on the interesting subject of grasses, from the pen of A. Robinson, Esq. of Portsmouth, New Hampshire, a wealthy, intelligent and practical farmer. Than the culture of grasses, nothing is, perhaps, of deeper interest to the agricultural community, and hence every light which can be thrown upon it is of profound concern. We invite attention to this, and the numbers which may follow. (*Farm. & Gard.*

From the Portsmouth Journal.

Permit me gratefully to acknowledge through your paper, the receipt of a small package of the seed of the Gama Grass, with a letter, from William Star, Esq. of Savannah, Ga.—and to add some remarks on the culture of Grasses generally, at the North and at the South.

Mr. Star informs me, that he was induced to send the seeds, by seeing in the Northern Farmer, an acknowledgement of mine for four seeds of the Gama Grass from the editor of the paper—as well as by his own apprehension that the seed, being slow in vegetation, might not come up, and so disappoint my hopes. He gives, from the American Farmer and Gardener, the following directions for sprouting it in three days: viz. "Take of proof spirits and plaster of paris, a sufficiency to make it of the consistency of thin whitewash,set it by the fire and keep it milk warm for twenty-four hours, the seed in it, sow or plant them in good ground well prepared, and it may be necessary to protect them from the sun in a hot day."

If these means prove effectual in sprouting the seed, it can truly be said that the discovery is valuable, and that one very discouraging obstacle in the culture of this Grass is surmounted. Mr. Starr thinks "it may be well to cover the young plants in our climate with straw in winter." This inference seems to raise a doubt, or a question, whether we shall succeed in its culture here. His conjecture respecting my disappointment from my four seeds not vegetating proves correct. I had no advice for the management of them, therefore, my judgment led me from the nature of the seeds, being coated with a very thick hard shell, to pursue the following mode:—I put two of them into water, endeavoring to keep them milk warm for about ten days; perceiving that this operation had no effect, I determined to know what they were, for I never had seen any before, and they are strange looking things to those that are not acquainted with them. I took a sharp knife and it was with difficulty that I could penetrate them; I found one shrunk and imperfect, the other perfect and full, both perfectly dry, and no appearance of vegetation. I then planted them all separately with the greatest care, and have frequently and carefully examined them, and found them remaining entirely dormant, and if it was not that I have been informed by the editors of the Northern Farmer, that they were slow to vegetate, sometimes fourteen months, I should have despaired of their ever vegetating. I do not, however, think it probable that they ever will.

The remaining remarks, I shall submit in the form of a letter to Mr. Starr.

For these favours, sir, please accept my sincere and unfeigned thanks. I should have been very grateful for some particulars respecting the present state of the culture of this grass with you; it would have amounted to a certainty to me. The accounts I have had, have been very variable; the statements are from one hundred and fifty to thirty tons per acre.—New things are apt to be overated, and I do not know what allowance to make in this case. The different modes of culture on many vegetables has a very different effect; for instance, Indian corn, if planted on the best of soil, and in the right season, if not hoed produces nothing, but with the right culture it grows luxuriantly, and is very productive: and so it is with the Tobacco plant, the Cabbage, etc. These are not perennial, but it has a similar effect with many of the perennial tribe;—the dandelion will produce an hundred fold at least by hoe culture; Lucerne will not do any thing here without special care,—I have heard of thirty tons taken from an acre in one season in France from hoe culture. Many of our common Grasses if planted in good ground and hoed well, would have a much greater increase. I do not mean to recommend the thing, I only mean to show wherein we are liable to be deceived in a new thing. I should like to be informed what crop of Gama hay may fairly be expected from such light soil as it is said is congenial to the growth of

it, the ground having been sown for several years, without any other culture than securing the fodder. I should also be pleased to know for a fact what has recently been obtained from an acre, and from what mode of culture. Some of these questions, or similar ones, if answered, would be very satisfactory to me, and no doubt to many. I should be happy to be informed, that I might safely calculate on growing, on our light soils from two to four tons to the acre.

Suffer me, sir, to retain your attention a few moments while I make some general remarks on our different locations, habits and interests. I have reason to suppose you are an agriculturist, or at least much interested in its prosperity. Much of the products of our respective sections are very different, and many of our habits are consequently different, but this does not argue that we have no interest in each other's welfare and acquaintance, but the contrary; we are the more dependent for the exchange of our several products, for the interest, comfort, and happiness of each other. You have cotton, rice, sugar, molasses, sweet potatoes, Indigo, etc.—we need them. We have hay, beef, fish, Irish potatoes, butter and cheese, fruit, wool, etc., and you need them. Now, sir, is it not obvious that we are interested in each other's friendship and prosperity: the truth of this cannot be denied, and from your generous and unsolicited act, it is evident, you have a full sense of the fact. But, sir, notwithstanding this great difference in our products and habits, occasioned doubtless by the difference in the climates of our respective sections of country, and that the products of each are, apparently, permanently settled, there may still be great changes. Since my recollection there was no wheat grown in any of the Southern States. Virginia in particular, was deeply engaged in the culture of Tobacco, but from certain restrictions she lost her usual market, so much so that her sales would not in any case give her people a competency; from this circumstance they were driven to the alternative of some change of culture, or to let their lands lay idle and starve.—They accordingly tried the experiment to sow wheat; they found it to do well from that time to the present, and under the appearance of a seeming judgment, it was a blessing in disguise. They used to import all their Flour from New-York, Pennsylvania, and Maryland, and now vast quantities of Flour are exported from that State, I presume more than from any other state in the Union. I name this circumstance before I dare to make the suggestion that it is possible, if not probable, that your state may equally change her habits.

A. ROBINSON.

SUMMER FALLOWS.

As the season has now arrived when farmers are ploughing their summer fallows, we shall suggest a few considerations with regard to the propriety of the practice.—The principal reasons in favor of it are, the destruction of weeds which grow upon the land, and the minute division and admixture of the component parts of the soil.

These are indeed important advantages; but we would ask, if they cannot be obtained or more than counterbalanced, by a different course of procedure?

The destruction of weeds is absolutely necessary to good farming; but this may be accomplished equally well by hoed fallow crops, (such for instance as the China bean,) which will not unfrequently, where a judicious system of rotation is pursued, leave the ground in a better condition for winter wheat, than where the land is treated as a naked fallow merely.

Where such fallow crops can be selected as will cause no deterioration of the soil, nor injury to the succeeding wheat crop, it is evident that such a crop would be a clear gain over the naked fallow system, as it would occupy the ground which otherwise would be lying idle.

In cases however, where no fallow crop is raised, it would doubtless be much better for the land to be producing a growth of grass or clover, which may serve as a coat of manure for itself, than to remain barren and unproductive throughout the summer. This is a cheap way of manufacturing as well as spreading manure; and though the crops might not be instantly benefitted by it, it would eventually contribute materially to fertilizing the land.

Of all green crops thus ploughed under as manure, those of plants belonging to the natural order *Leguminoscæ* are found to

possess a decided superiority. Crops of clover have accordingly been much employed. but as it commonly requires a second year after sowing for the common clover to arrive at sufficient size, some kind of more rapid growth would be desirable. The Scarlet flowering clover, (*Trifolium incarnatum,*)an annual plant, when sown in the spring, will produce by autumn a good crop, which from the nature of the plant admits of being easily ploughed under. The seed however may prove expensive. We would recommend to enterprising agriculturists to direct their attention towards obtaining some suitable crop for this purpose.—*Gennesee Farmer.*

PLAN OF HOMESTEAD.

The FARMER AND GARDENER, published at Baltimore by Sinclair & Moore & Robert Sinclair, Jr. of the 21st of July last contains a "drawing and description of the buildings of and out-houses on the homestead of a country gentleman," by the Senior Editor of that paper, well calculated to aid a Farmer in erecting such buildings and improvements.—Not having the Plate, without the aid of which it would be impossible to understand well the plan—we cannot insert the article, but we would recommend it to the attention of country gentlemen about to build on their Farms, as an article from which they may no doubt derive much useful information on the subject.

TURNIPS.

A mistaken notion very generally prevails, that this root can only be advantageously raised on new land; to be satisfied of the fallacy of this, it is only necessary to reflect, that it is cultivated to a greater extent, and with greater success in the old countries of Europe, and in the older sections of the United States, where it is almost exclusively sown on old land made fertile by manure,than elsewhere. It is sown either broadcast, or in drills, and cultivated with the hoe. The drill method is much to be preferred,especially where the object is to raise the largest quantity from the land sown. The land should be well manured and the earth well pulverised, the rows should be from eighteen inches to two feet apart, and the plants should stand single at a distance of from six to twelve inches according to the richness of the land, the seed should be covered lightly, and the earth pressed about them with the roller, spade or hoe, immediately after being sown, so soon as the plants are beyond the reach of the fly, or in the rough leaf, they should be carefully thinned to the proper distance, taking special care to leave but one in a place, and after this, they should be kept clean by two or three hoeings, taking care not to bury the roots much below the surface of the earth by throwing earth to them, indeed the shallower they are covered so that the plants stand upright the better. By this mode of cultivation, every family may raise enough for their tables on a small portion of their Gardens, and another small portion, left standing in the ground and covered during the winter, will furnish an ample supply of early greens in the spring. This root, especially the Swedish turnip, or Ruta Baga, may be advantageously cultivated on a large scale, as winter food for stock; they are peculiarly valuable for fattening Beeves, given together with grain and hay. It is believed that the neglect of root crops, as food for stock, is a great defect in the agriculture of East Tennessee. The common turnip should be sown from the 1st to the 20th of August. The Ruta Baga in June or July, and the Mangle Wurtzell early in April. We should be glad to see some accurate and fair experiments made, for the purpose of testing, by actual experiment, the profit of root crops in this country, as a food for stock. The labour and expense would be inconsiderable; a little attention to system and accuracy is all that is requisite, to enable any farmer to satisfy himself, and should the experiment prove successful, to communicate a portion of valuable information to the public. We should be highly gratified in being enabled to render the Farmer, the vehicle of communicating to the community, the results of such, or any other experiments, to which the enterprize and public spirit of our agriculturists may stimulate them. And we have reason to hope, that it will not be long, before the columns of the Tennessee Farmer will be regularly enriched with communications of this character, to the honor of their authors, and the benefit of the community.

The following statement evinces that neither much labour or expense are required to enable our Farmers to improve the quality and value of their Beef cattle, to an extent far surpassing what is usual. Mr. Cannon's beef, though killed at so early an age, we have no doubt, produced a nett profit far beyond that which is generally realized from beeves in this country. When clover pasture, and the use of root crops shall become common—the value of the beef raised in East Tennessee, will be more than doubled, while the expense will be little, if at all increased.

WILLIAM CANNON, of Sevier county, slaughtered a Beef steer, 22d December, 1834, just turned past three years old.

Nett Beef,	-	877 lbs.
Call Fat,	-	74 "
Hide,	- -	86 "
		1037 lbs.

This beef run in the knob range all summer—was put up in the fall—fed on corn and pumpkins, and occasionally a little meal and wheat bran, and was not in keeping more than six weeks.

Gibbes' Improved Corn.

We publish below, from the *Yorkville (S.C.) Patriot*, a brief though pithy correspondence between two practical farmers, on a subject of great moment to the agricultural interests. It was very happily said by *Dean Swift*, that "whoever could make two ears of corn, or two blades of grass to grow upon a spot of ground where only one grew before, would deserve better of mankind, and do more essential service to his country, than the whole race of politicians put together," and we believe we may accord to each of those gentlemen the full measure of that meed of praise, without subjecting ourself to the imputation of being a flatterer.—[*Ed. Farmer & Gard.*

The method of selecting his seed corn, as followed by Mr. Gibbes, is judicious, and we trust every agriculturist who raises a corn crop, will take counsel from the result of his experience, and pursue the same course. Indeed were planters and farmers, generally to adopt this plan, with respect to the saving of their seed from the whole range of their several crops, we have no doubt but that the happiest effects would be the result of their labors, in their melioration and improvement. Domestic animals in Europe, and particularly in England, have been brought to their present perfection by selecting exclusively, for breeding, those combining the best points, for the respective uses for which they were wanted; and we see no reason why the same law which regulates the economy of the animal kingdom, may not, with equal success, be applied to the vegetable. The experiments of Mr. Gibbes, and those of every other gentleman who have made the trial, go to confirm the belief, that such would be the case. We therefore, are impelled to the belief, that by exercising due vigilance and proper care, in selecting seed corn from none but such stalks as are vigorous and large in their growth; fruitful in their yield, and which may have borne two ears or more of good grain; and, by being equally careful in the culture, that in a few years, our planters would be able to banish from their cornfields, those unsightly dwarf stalks, which yield nothing but nubbins, and reward the husbandman so indifferently for his toils and his outlay.

September 17th, 1834.

Friend—Two years last spring I obtained some of your seed Twin Corn. I send in return one stalk with five good ears on it, and if you improve said corn for the space of two years and return me a stalk with six ears, raised on the pleasant fields of Oakly farm, I will try to be able in two years after to return you a stalk raised on the fertile fields of Busrow farm with seven ears.

With due respect and esteem, I am yours, &c.

W. S. GIBBES. OLD COL. GILL.

Oakley Farm, September 18, 1834.

OLD FRIEND—I have to thank you for your note and stalk of corn with five good ears upon it, and must acknowledge that you can beat me with my own seed, and that I can shew nothing like it; nor could I hope on my poor ridge of land to compete with your excellent farming on your flat bottoms—'tis now about eighteen years since I first began to improve my corn, by selecting my seed from those stalks only which bore two ears; and the first year had difficulty to find as many stalks with two ears, as would give me seed; but now in a tolerable season, it is difficult to find a few stalks even with less than two, and from that to three and four good ears. The peculiar quality of my seed has shown itself particularly this year when my whole crop has suffered so severely with drought, yet you see two ears or a struggle for it wherever my seed was sown; but two fields was sown each with different seed that had been highly recommended to me, there is scarcely a double eared stalk to be found in either—the few there are I shall carefully preserve and endeavor to improve, as I like the kind of grain rather better than that I am now cultivating. I shall preserve your five ears, carefully also—plant them separately—and next year, *Deo volente*, let you know the result—tho' I can hardly expect my land can support and bring to maturity such prolific offspring. Believe me as ever with regard, Yours, &c.

WILMOT S. GIBBES.

OLD COL. GILL.

FARMERS.

Some of the most distinguished characters, whose lives have been handed down to us by history, have been agriculturalists. Cincinnatus was called from the plough to lead the armies of Rome to victory, and when her enemies were vanquished he resigned all power and returned again to his rural occupations. In modern times our own Washington, and our adopted Lafayette, are on the list of farmers.

It is a mistaken idea that farmers have no need of education, or no leisure for acquiring it.—Knowledge is important to all human beings: as it enlarges the mind, and raises the thoughts above merely sensual gratification.—Free from care and anxiety, and surrounded by the comforts of life which their farms afford, they may, if they will, with their families store up the rich treasures of history and biography; and become familiar with the people and customs of other countries, without departing from their own firesides. It would be highly beneficial to the interests of this country if larger numbers of men of wealth and learning, should become farmers; they exert a healthful and stable influence on society, and the want of them no other class can supply.—The

lines in Goldsmith's Deserted Village, on this subject are not only beautiful but strictly true:—

"Princes and lords may flourish or may fade,
A breath can make them, as a breath has made;
But a bold yeomanry, their country's pride,
When once destroyed, can never be supplied."

[*From the New England Farmer.*]

Culture of Corn.

MR. FESSENDEN—About two years since I gave you some account of two experiments in planting corn. The result of one went to show that our cornfields do not usually have a sufficient stock of plants; and the other, that nothing is gained by giving the hills a greater distance one way than the other On the latter point perhaps the practice of farmers in this vicinity is different from that of others. Here we see fields planted, with rows from two and a half to three and a half feet distant, and hills from four to six or seven feet distant in the row, thereby making the distance nearly, in some instances, more than double one way than it is the other. The origin or reason of the practice I have never learned, but see no objection to it, except the additional labor necessary in cultivation. I believe it is moderately getting out of use. Respecting the first, that of stocking the ground, I have since made further experiments both in regard to distance between hills, and number of stalks in a hill, and if you think its details, may be useful or interesting to your readers, it is at your service.

Corn is usually planted here in hills, and the general impression among farmers, I believe, is, that without reference to the distance between hills, it is a matter of little consequence whether there be three or four stalks in a hill. Perhaps the majority prefer four stalks, yet some good farmers give the preference to three, and three are probably as many as our cornfields will usually average, if the missing hills are taken into the account.

The ground selected for the experiment, was a light sandy loam, that had been in pasture perhaps thirty years. After ploughing and rolling about twenty cart buck loads to the acre of coarse barn yard manure were spread on the furrows and harrowed in. Five parcels of ground, of three rows each, were then laid out at several distances, of 2 feet 6 inches, to 2 feet 9 inches, 3 feet, 3 feet 3 inches, and 3 feet 6 inches, each parcel separated by an intermediate row, to prevent the necessity of resorting to an average on the outside rows, in calculating the product of the ground per acre. The distance between the hills in the row, was in all cases equal to the distance between the rows of the same parcel; and in each parcel one row was to have three, one to have four, and the other to have five stalks in a hill. The rows about twelve rods in length, were laid out, and the hills marked off at exact distances, with little trouble, by means of a simply constructed gage, The corn planted was an early twelved rowed kind, called the Golden Sioux. Six to eight kernels were put in a hill, and the stalks afterwards pulled out to the requisite number; in all cases leaving the best ones standing, which gave some advantage in the selection, to the hills of smallest number. The intermediate rows, and those on either side, had generally about four or five stalks in a hill, with hills at distances to correspond nearly with their neighbors. In the selection of soil, manuring and cultivating, all were supposed to have an equal chance. The ground was kept level, and sowed with grass seed the last time of hoeing.

When harvested, the produce of each row was carefully weighed in the field, and noted down immediately, and seventy pounds of dry well ripened ears estimated to make a bushel of shelled corn.

The following table will show the order in which the rows were planted, and perhaps will exhibit the method pursued and the result; better than can be done by description; and also afford opportunity to detect any error that may have been admitted in the estimates.

No.	Distance	Ground to each hill.	Hills per acre.	Hillstalk per row.	Stalks in a hill.	Product of row.	Product of Hill.	Shelled corn per acre.
1	2 ft. 6 in.	6 ft. 3 in.	6970	80	3	47 lbs.	9 oz.	54 bush. 44 p.
2	"	"	"	"	4	49 "	9 "	56 " 67 "
3	"	"	"	"	5	52 1-2 "	10 1-2 "	60 " 74 "
4*								
5	2 ft. 9 in.	7 ft. 6 3-4 in.	5760	72	3	48 1-2 "	12 3-4 dms.	56 " 56 "
6	"	"	"	"	4	53 "	13 "	61 " 41 "
7	"	"	"	"	5	55 "	12 "	58 " 48 "
8*								
9	3 ft.	9 ft.	4840	66	3	43 "	11 1-4 "	46 " 70 "
10	"	"	"	"	4	54 1-2 "	13 "	53 " 20 "
11	"	"	"	"	5	54 1-2 "	13 "	54 " 56 "
12*								
13	3 ft. 3 in.	10 ft. 6 3-4 in.	4124	60	3	43 "	11 "	46 " 31 "
14	"	"	"	"	4	48 1-2 "	12 "	50 " 34 "
15	"	"	"	"	5	55 "	14 "	50 " 90 "
16*								
17	3 ft. 6 in.	12 ft. 3 in.	3536	51	3	45 "	12 "	45 " 18 "
18	"	"	"	"	4	55 "	15 "	55 " 56 "
19	"	"	"	"	5	56 "	15 "	48 " 43 "

*Intermediate or dividing rows.

It will be seen in every case that the hills of three stalks produced less than those of four, and those of four less than those of five. In this view it may be considered as five experiments, all giving the same result, notwithstanding some of the hills occupied but about half the quantity of ground usually given them in our field culture

The average of five rows, one from each parcel, is as follows, viz.

Three stalks in a hill, 46 bush. 14 lbs. per acre.
Four do do 52 do 42 do do
Five do do 54 do 20 do do

The difference of average betwen three and five stalks is 8 bushels 6 lbs. per acre.

It will be seen also, that in every instance but one, or eleven times in twelve, diminishing the distance between the hills increased the product of the ground. The average of each parcel is as follows, viz:

Three feet six inches between the hills gave 44 bushels 14 lbs. per acre.

Three feet three inches, 44 bushels 57 lbs. per acre.

Three feet three inches, 44 bushels 57 lbs. per acre.

Three feet, 51 bushels 49 lbs. per acre.

Two feet nine inches, 55 bushels 45 lbs. per acre.

Two feet six inches, 57 bushels 36 lbs. per acre.

The difference of product between the average of hills at 2 feet 6 inches, and that of hills at 3 feet 6 inches, is 13 bushels 22 lbs. per. acre.

Row No. 17 had the least number of stalks per acre, and gave the smallest product, 38 bushels 18 lbs. The number of stalks in this row per acre, (for there was not one missing), was probably equal to the number usually standing in our fields, and the product would be considered, in common seasons, a fair crop for land and manure of like quantity and quality. Row No. 3 had the largest number of stalks per acre, and gave the largest product, viz: 60 bushels 74 lbs. This difference appears to have been made by the difference in the number of stalks, as is evident from the fact that the produce of the other thirteen rows varied from these, and from each other in different degrees, somewhat according to the number of stalks, and distance of hills, with one exception. No. 14, with hills (of four stalks) at 3 feet 3 inches distant, gave 1 bushel 23 pounds less than No. 18, with hills (of four stalks) at 3 feet 6 inches distance. This exception to the general result is a case in point showing that the same crop is not always and in all cases to be expected even from the same soil, season, and mode of culture; and gives evidence, if such be wanted, that a single experiment should not be relied upon as fully establishing any rule or method of cultivation.

Row No. 17 gave a product equal to 22 bushels 56 lbs. per acre more than Row No. 3, or a gain of about sixty per cent, apparently by increasing the number of plants per acre. Perhaps a part of the gain, however, is only in appearance. Most likely a hill with five stalks would extend its roots in search of food somewhat farther than a hill with four or three stalks, and if so, among weaker neighbors it would occupy more than its allotted portion of ground, while they would occupy less than theirs. If this be a cause of part of the difference, it may be difficult to tell how much deduction should be made, (though probably whatever is made should be from the 8 bushels 6 lbs. difference of product between three and five stalks), but having the facts before you, Mr. Editor, you or your readers can guess as well as myself, whether after making a liberal allowance for that or any other supposable cause, there was not a large and substantial gain by increasing the number of stalks per acre.

That the gain would have been as great on all other soils, I am by no means prepared to say; indeed, on many I am confident it would not. I apprehend it is only rich and good soil, well adapted to the growth of corn, that will bear thick planting, and poor, light land most certainly will not bear the exhaustion. Thick planted corn also suffers soonest and severest by drought.

I have stated the case perhaps with more minuteness than may be thought necessary, and shall leave it with you, Mr. Editor, to strike out all or any part, as you shall think best.

During the past year much has been said in the Farmer, by way of objection, to large corn cobs—a popular objection, surely—but will you tell us, Mr. Editor, why a large cob is not as good as a small one; or, what is about the same thing, why a long one is not as good as a short one; and whether we may not as well expect to raise beef without bones, as corn without cobs? I have supposed that the larger and longer the ears were, the better, provided the corn was of good quality, and adapted to the seasons and soil; with these qualifications, far from having seen them too large, I have seldom thought them large enough, and should be very unwilling to assign them a limit. Indeed, I see not why the objections that can be made to large ears of corn should not be made to large ears of rye or wheat, or to the large long frames of "Improved Short Horns," But I may be mistaken; I may misapprehend the subject

Yours respectfully,

WILLIAM CLARK, Jr.

Northampton, May, 1835,

[BY THE EDITOR.]

The above article cannot fail to prove of great utility to the practical farmer; and we think that Mr. Clark has rendered important services to the community of cultivators, by making and publishing the results of the experiments detailed above.

From the New York Farmer and American Gardener.

Cultivation of the Ruta Baga.

Mr. Editor: As I have been in the habit of cultivating the Ruta baga for several years past, formerly with but poor success, but latterly unusually good; and believing it to be one of the most valuable crops that the grower of wool or the keeper of cattle can cultivate, I beg the liberty of communicating to the public through your paper, the result of my experiments.

I formerly have been in the practice of sowing my seed in the latter part of June, and of having the plants to grow too thick on the ground; in consequence of which, I seldom obtained at the rate of five hundred bushels per acre; the roots being but small and the tops quite too large.

My late practice has been to sow my seed in some of the last days of May, with Robbin's patent planting machine; rows as near twenty-eight inches between as possible, planting the seed once in three or four inches; taking care, after the plants get sufficiently large, to thin them so that they may stand 12 or 14 inches apart. In this mode of planting I have obtained from one half acre of land 700 bushels of roots, the ground being a turf, turned under a few days previous to sowing the seed; soil, sandy loam; sowed on the Ruta Baga, soon after the seed came up, one bushel of plaster, broadcast.

The last season, I raised from four acres of land four thousand bushels of ruta bagas, the account of which stands as follows:

	Dr.	
To use of ground,		$16 00
" 4 days ploughing and harrowing,		8 00
" 40 loads of barn manure,		20 00
" 4 bushels plaster,		2 00
" Seed,		2 00
" 1 day's labor planting		75
" 32 do. hoeing and thinning		24 00
" 20 do. pulling and gathering		15 00
		$87 75
	Cr.	
By 4000 bushels ruta bagas,	$400	
" 4 acres of tops	24	
		$424 00
		87 75
Nett profit		$336 25

In the foregoing estimate. I have called the roots worth ten cents per bushel, a price I consider them worth to fatten cattle and sheep, and the tops six dollars per acre; a price below what I should feel willing to take for them. My custom has been, for some seasons past, to take my lambs from my ewes, sometime in the month of September, and put them into my ruta baga field to wean. The lambs trim the tops from the roots, which causes them to thrive as fast or faster than while taking the milk from the ewes. and prepares them for the winter better by far than any other feed that I have been in the habit of trying; and they eat the tops from the roots so clean, that it supersedes the necessity of cutting with an edged tool.

When the tops are sufficiently eaten off, the roots should be pulled out of the ground and permitted to lie in the sun until the dirt is sufficiently dry to rattle off by handling. No dirt should be permitted to go with the roots, if it can be avoided, for the dirt fills up the crevices and prevents the circulation of air, and causes the roots to heat and spoil. Two or three thousand bushels of roots may be thrown into a cellar together, if dry and clear from dirt; and preserved well; while one hundred bushels thrown in, in a moist state, together with dirt sufficient to prevent the circulation of air, will heat and spoil in a short time,

In raising seed, care should be taken that no cabbage, round turnip, or any root partaking its nature, should be permitted to blossom with or near the ruta baga, lest the different plants should amalgamate, and injure the seed.

D. T. Buck.

Lawville, April 13, 1835.

Truth is the basis of all other virtues, and he who does not hold it beyond all price—who would not adhere to it, through every vicissitude and every peril—who would not cherish it as the anchor of his hope, is lost to the impulses of honor and self-respect. It being the foundation of every other human attribute worthy of appreciation, it follows as a natural consequence, that if *it* be abtracted, the whole moral superstructure falls to the ground. The individual, therefore, who can so far forget himself as to give utterance to a falsehood, is more an object of abhorrence than of pity, and though we may deplore as men, the existence in his breast of that depravity, which may have reduced him to a level so revolting to our nature, we cannot without doing violence to our principles lend him our sympathy. Hence then, every parent should feel himself imperiously called upon by every endearing consideration, *to teach his children the value of truth* from their earliest lispings. Its beauty should be daily exhibited before their eyes, not only in parental *precepts;* but to these should be superadded, the force of *example.* For he, who teaches, should illustrate, by his own good deeds. his belief in the excellence of the doctrines he may desire to inculcate, as without practice, professions become ridiculous in the sight of others, if not positively pernicious in their tendency upon private and public morals. Profession without,

practice, is like faith without works, deficient in the evidence of their *sincerity*, that most essential ingredient in their composition, and which alone, can impart dignity to human actions, sanctify human motives, and adorn the human character. *Farmer & Gardener.*

Why should'nt a Farmer know a thing or two?—Why should not a farmer know more than other folks? They certainly ought to, for they have in this country more to do than others.—They have to make more use of the powers or laws of nature than other folks;—they have to use the elements for tools—they are indeed practical chemists, (whether they are aware of it or not,) for they have to make use of the various substances which Nature gave them—they have to combine, separate, modify and change both simples and compounds. Their farm is at one and the same time a laboratory and a workshop, and in proportion as they operate in such a way as to afford the elements of which the substances are composed, and upon which they are operating, liberty to disunite or to combine, will be their success. They depend upon the vegetable world for subsistence—their labor is among and upon the plants of the earth—why should they not know the proper name and nature of every tree and herb and plant? They have to contend with insects and animals—why should they not know the habits, and the natures of these as well or better than any other class of people?—They have to work upon the earth; they have to put it in a condition to bear a good crop; they have to change the state of it and adapt it to the various purposes and crops—why should they not know more and better respecting the ingredients of their soil—the various mineral or fossil substances which they may find either upon their own or others' farms? They have to "discern the face of the sky," and watch the changes of the atmosphere, and regulate their movements in accordance to the changes of the weather, temperature, &c.—why should they not know as much or more of the composition of the air or atmosphere, and the science of meterology than any other people? They must use tools or implements of labor—they must take advantage of the principles of mechanics and the application of mathematics to practical life—is there any reason why they should not know as much or more than any others, respecting the science of Mechanics or Natural Philosophy? In this country they have to contribute largely to the support and formation of the government, and upon them depends the election of rulers and law-makers—why should they not understand the fundamental principles of National law—political science and political economy? They have to administer to the sickness of animals under their charge—heal wounds and restore health—why should they not perfectly understand comparative anatomy, at least, and also physiology and the systems and treatment of diseases, as well as any others? Indeed so wide is the field of his labors, so numerous the objects with which he is connected, so various the operations which he has to perform, that we verily think that a farmer ought to be the most learned man upon earth. But can a man conquer or make himself perfectly familiar with every science and every thing? By no means—yet nevertheless he should have his mind so well stored with the general principles of all the sciences, that he can be guided by them when it becomes necessary to be more particular, and to know when he employs a man devoted particularly to any one branch, whether he is competent to the task, and will discharge his duty to him with fidelity and precision. *Maine Farmer.*

AGRICULTURAL BOOKS.

We have been requested, by a correspondent of the *Genesee Farmer*, to furnish a list of agricultural books, suitable for a farmer's library. This we do cheerfully, remarking by the way, that the number of *American* books is very limited; and that in selecting those of foreign origin, we must take much chaff with the wheat. The elementary principles of husbandry are pretty general in their application, while the practical operations of different countries must necessarily be variant, not only on account of difference in climate and soil, but in productions for the market, price of labor, habits of the people, &c. No European system of practice is therefore exactly adapted to our wants, though it may embrace much that is highly beneficial.

Independent of the memoirs which have been published by the agricultural societies in Pennsylvania and Massachusetts, and by the Society of Arts and Board of Agriculture in New-York, the *American* works on agriculture, that we have been acquainted with, are to name them in the order in which they appeared, 1. Deans New-England Farmer; 2. Bordley's husbandry; 3. Arator, a series of agricultural essays, by John Taylor, of Virginia; 4. A Treatise on Agriculture, by Gen. Armstrong: 5. The Farmer's Assistant, by John Nicholson; 6. Lorrain's Husbandry. 7. Essay on Calcareous Manures, by E. Ruffin; and 8. The Complete Farmer, by T. G. Fessenden. These are all worthy a place in a Farmer's Library, as well as the memoirs first named. Of Nos. 1 and 7, new revised editions have lately been published at Boston and Richmond. Of the others, copies are scarce, and the memoirs, we believe, cannot be purchased. No 4 is a work of merit, comprising a great mass of interesting matter, detailed with great conciseness and perspicuity. No. 6 was written by an excellent practical farmer, who blended a great deal of useful reading and nice observation with

an extensive practice. The writer was a self-taught philosopher, who scrutinized narrowly into cause and effect, and we believe was a very successful farmer. The essay on calcareous manures, is an invaluable treasure to all who can avail themselves of lime and marl, as sources of fertility. No. 8 is principally a judicious compilation from the agricultural papers of our country. A new edition is now in the press. There are several American publications which treat of the orchard and the garden, which it is unnecessary to enumerate, as they may be found in all our seed shops.

Of foreign publications upon husbandry, we should recommend the following, in the order we name them:—Low's Elements of Practical Agriculture; Lawrence on Cattle; Davy's Agricultural Chemistry; Sinclair's Code of Agriculture, and, (last, *only* on account of its expense,) Loudon's Encyclopedia of Agriculture. The Farmer's Series, published by the British Society for diffusing useful knowledge, affords an excellent compendium of British husbandry, though but partially adapted to our country.

But neither foreign nor American books ought to supersede the agricultural periodicals of the day. These abound in communications from our best farmers, and detail the improvements which are continually developing in rural labor. We venture to say, there is not a farmer in the Union, of common intelligence and enterprize, who is ambitious to improve his condition; and who takes an agricultural periodical, that is not more than remunerated for his subscription, by the useful information which he acquires from it.—They are generally printed in a form to be easily preserved, and they ought to be preserved. We subjoin a list of such as are known to us, for the benefit of the readers of the Cultivator:—

Published quarterly.—The New-York Quarterly Journal of Agriculture at New-York.

Monthly.—Southern Agriculturist, at Charleston, S. C.; Farmer's Register, at Shell-Banks, Va.; New-York Farmer, N. Y.; Cultivator, Albany; Tennesse Farmer, Tenn; Fessendens Practical Farmer, Boston; Rural Library, a monthly publication of 32 8vo. pages, New-York.

Semi-monthly.—Farmer and Mechanic Cincinnatti, Ohio.

Weekly.—Genesee Farmer, at Rochester; New York Farmer, at New-York: New-England Farmer, at Boston; Maine Farmer, Winthrop, Me.; Yankee Farmer, Cornish, Me.; Ohio Farmer, Columbus, Ohio; Southern Planter, Columbus, Georgia.

Devoted to Horticulture particularly.—The American Gardener's Magizine, by Hovey & Co., and Horticultural Register, By G. E. Barret, both monthly 8vos., published at Boston.

Devoted to Silk Culture.—The Silk Culturist, at Hartford, Con., and the Silk Worm, at Albany.

To Orchards and the Vine.—Coxe on fruit trees; Thatcher's Orchardist; Prince's Pomological Manual; Kenrick's New American Orchardist, and Prince, Adlum, Loubat and Rafinesque on the Vine.

The Quarterly Journal of Agriculture and New York Farmer are from the same press, as are the New-England Farmer and Practical Farmer.—The Rural Library is a republication of American works on husbandry and gardening.—*Cultivator.*

Additional List of Agents

FOR THE

TENNESSEE FARMER.

Wm. Kay, Dover, Stewart County, W. Ten.
Hugh Graham, Tazewell, Claiborne c'ty, E. Ten.
J. W. Allen, Carthage, Smith county; W. Ten.
John Lynn, jr., Kingsport, Sullivan c'ty, E. Ten.
A. B. Currey, Rural Hill, Wilson c'ty, W. Ten.
G. Lane, Vernon, Hickman county, W. Ten.
Wm. F. Mason, Fayetteville, Lincoln c'ty, W. T.
C. Bayles, Bayles' Store, Lincoln c'ty, W. Ten.
Danl. Cherry, Cherryville, Haywood c'ty, W. T.
Wm. Hord, Hord's Store, Hawkins c'ty, E. Ten.
H. Bradford, Columbus, McMinn c'ty, E. Ten.
Jos. B. Hinton, Washington, N. Carolina.
J. Ross, Ross's P. O, Anderson c'ty, E. Ten.
Wm. G. Scott, Augusta, Georgia.
Daniel Mulloy, Mulloy's P.O. Robertson c'ty, T.

From the tenor of communications from the above named Gentlemen, the Editor has inferred their willingness to aid the circulation of the Farmer by acting as Agents. He hopes he has not erred in this, though some of them have given no express authority to announce them as such. It will be understood that they, as well as all Agents heretofore announced, are authorised to obtain subscribers and receive subscriptions for the Farmer. It is deemed unnecessary to forward to them copies of the Prospectus, as a simple direction to forward the paper is considered sufficient. Agents are requested to be particular in giving the names of subscribers and of the County and Post Office to which the papers are to be directed, in a plain, legible hand writing, in order that errors in their direction may be avoided. To those Agents by whose active exertions the circulation of the Farmer has been considerably extended, the Editor returns his sincere thanks, and has only to request a continuance of their friendly aid.

Contents of the Farmer—NO. 8.

Making meadow—Gama grass—Italian rye grass—Manure—Cultivation of mind and soil—Demand for cocoons—White Mulberry tree—Silk culture—New York silk society—Potatoes—Beneficial effects of knowledge on moral principle—Cooking by gas—Grasses—Summer fallows—Plan of a homestead—Turnips—Large Beef—Gibbes' improved corn—Farmers that have been great men—Culture of corn—culture of the ruta baga—truth—Why should'nt a farmer know a thing or two—Additional list of agents.